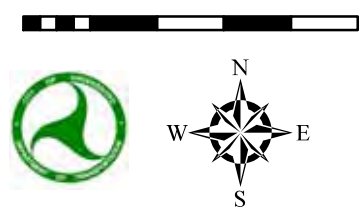
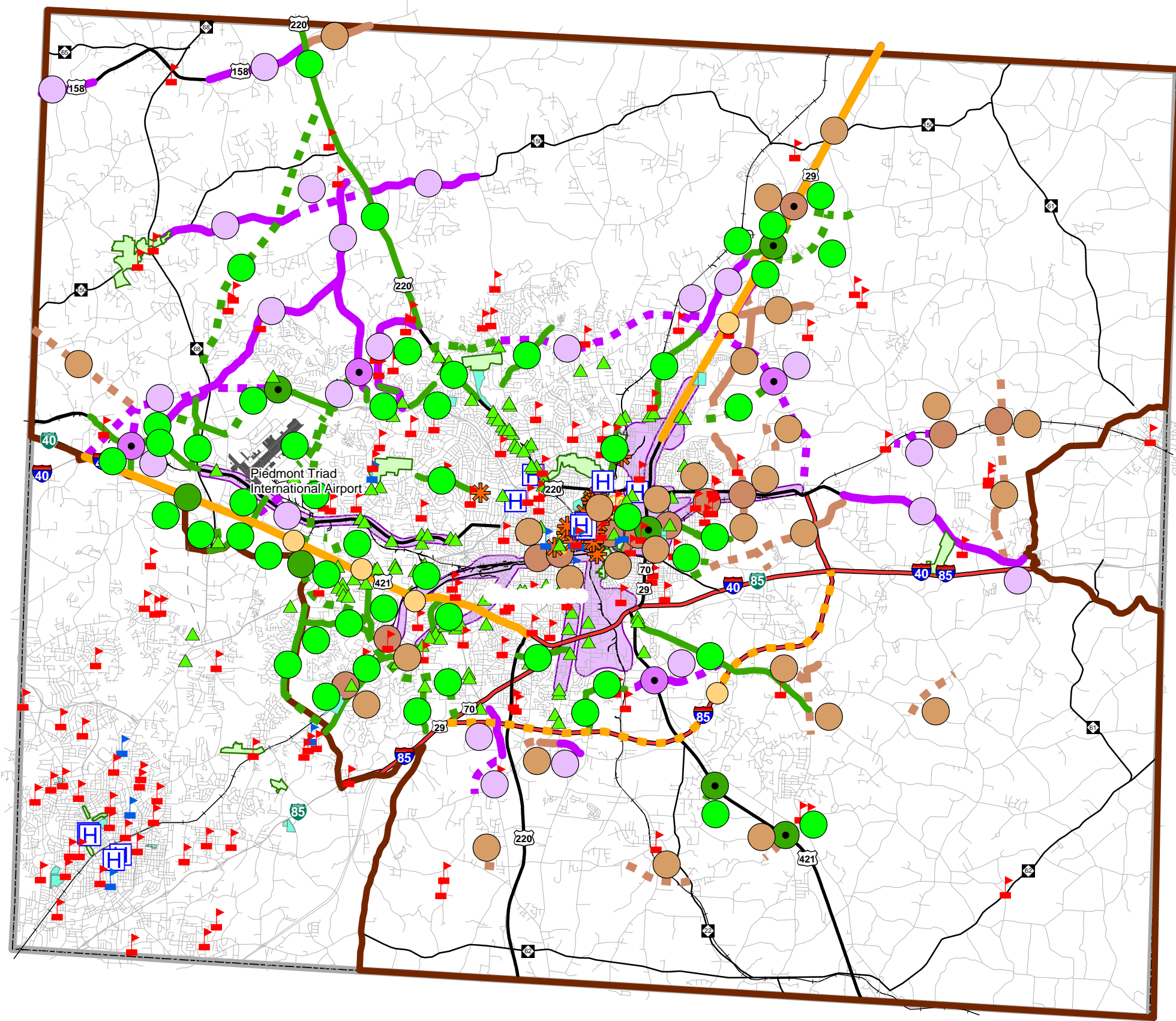


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- A##
- B##
- C##
- D##
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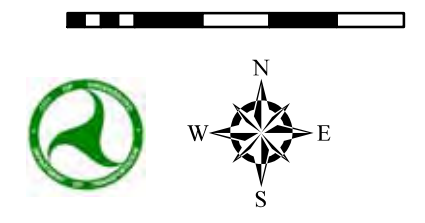
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- Red flag symbol
- Blue flag symbol
- Green triangle symbol
- Blue square with 'H' symbol
- Orange star symbol
- Orange hatched rectangle
- Light green rectangle
- Cyan rectangle
- Purple rectangle
- Orange circle with 'A##' label
- Green circle with 'B##' label
- Purple circle with 'C##' label
- Brown circle with 'D##' label
- Orange line
- Orange dashed line
- Green line
- Green dashed line

- Thick purple line
- Dashed purple line
- Thick brown line
- Dashed brown line
- Green circle with a dot
- Green circle
- Purple circle with a dot
- Brown circle with a dot
- Brown circle
- Thick brown rectangle
- Thin brown rectangle
- Red line
- Black line
- Black line with cross-ticks



considered less to have less severe impacts than one running along the course of the stream. Other relevant factors include the number of crossings, amount of traffic, roadway cross-section, and stream size and quality. As another example, a road widening is typically assumed to be less disruptive to the natural environment than a comparable project on new alignment. On the other hand, widening may be more disruptive than a new facility in terms of community impacts, depending on available right-of-way, alignment, type of development, and other factors.

Since this is a system-wide, planning-level screening, no formal field investigation was conducted, and screening could only be performed on those features for which GIS coverage was available. However, local staff reviewed and refined these GIS-based assessments, based on their familiarity with the areas and projects in question. As project plans are further refined, more precise environmental assessments may be necessary. For some of the projects in the Recommended LRTP, NEPA/SEPA studies are already underway or completed. Results are summarized in a series of evaluation matrices for the 2014, 2020, and 2030 horizon years — **Tables 4.1, 4.2, and 4.3.**

Each matrix rates the impacts of every project completed in that time period. Impacts in the following categories are assessed, based on mapping provided by the City of Greensboro:

Environmental

- Hydrological
 - Bodies of water
 - Floodplains/buffers
- Threatened species
- Parks/Army Corps of Engineers properties
- Hazardous materials
 - Hazardous waste sites
 - Superfund sites

Community

- Schools
- Shopping centers
- Hospitals
- Churches/cemeteries
- Historic resources
- Reinvestment areas

Potential project impacts (if any) are classified as “Minor,” “Moderate,” or “Major” for each of the above categories. This determination is based on a combination of objective and subjective criteria. For example, impacts are generally considered less severe if the project involves widening or other improvements along an existing roadway, as opposed to construction on new

alignment. The following guidelines were used to rate project impacts in this screening process:

Minor Impacts

- Road widening with single small creek crossing
- Road widening near sensitive area

Moderate Impacts

- Road widening with multiple creek crossings
- Road widening through sensitive area
- New alignment with single small creek crossing
- New alignment near sensitive area

Major Impacts

- New alignment along stream
- New alignment with multiple stream crossings
- New alignment through sensitive area
- Road widening or new alignment with numerous impacts

This analysis was used to eliminate any candidate projects with “fatal” flaws, or environmental impacts that were considered potentially too severe to justify the project. In addition, the information obtained from this analysis allowed proposed roadway alignments to be adjusted or refined to minimize possible environmental impacts. Finally, this screening process allows early identification of likely impacts and areas of uncertainty that will need to be investigated more fully as a particular project moves forward through more detailed planning and design.

*Greensboro Urban Area
2030 Long Range Transportation Plan*

Table 4.1 — Roadway Projects, 2014 Horizon Year (continued)																		
IMPACT MATRIX				ENVIRONMENTAL						COMMUNITY						ENVIRONMENTAL JUSTICE		
ID	Facility	TIP Number	Description / Extents	Bodies of Water	Floodplains / Buffers	Threatened Species	Parks / ACOE Properties	Hazardous Waste Sites	Superfund Sites	Schools	Shopping Centers	Hospitals	Churches / Cemeteries	Historic Resources	Reinvestment Areas	Minority †	Hispanic †	Low Income †
B30	Turner Smith Road extension		Connect Brown Summit Rd. to Turner Smith Rd.	***	***													
B31	Lake Jeanette Road		Lawndale Ave. to N Elm St. / Bass Chapel Rd.															
B32	East Market Street		Streetscape and Traffic Management						*	**	**			*	***	Yes **		Yes **
B33	Lake Brandt / Cotswold Connector	U-2524 (part)	Lake Brandt Rd. to Cotswold Rd.															
B35	US 421	R-2612	Williams Dairy / Neelley & Woody Mill / Company Mill interchanges	**	**													
B36	US 29	R-4707	Eckerson Rd. / US 29 Interchange + 1 mile of freeway upgrade	*	*				*	*								
B37	Greensboro Signal / ITS System	U-4711																
B39	East Cone Boulevard Extension		Nealtown Rd. to Hines Chapel Rd.	***	***				**				*		***	Yes ***		
B40	Bryan Boulevard	U-2815 C	Inman Rd. to NC 68 (relocate roadway)	***	***													
B41	Holts Chapel Road Upgrade		Alignment & cross-section improvements, E. Market St. to Ward Rd.	**				**			*				**	Yes **		Yes **
B42	Pegg / Thatcher Connector		Gallimore Dairy Rd. to W. Market St.	*	*										***			
B43	Bryan Boulevard Extension		NC 68 to Pleasant Ridge Rd.	*														
B44	Sandy Ridge Road		I-40 to W. Market St.											*	*			
B45	Alamance Church Road		US 421 to Southeast School Rd.	**	**				**	**	**		**	*	*	Yes **		
B46	Gallimore Dairy Road	U-4015 (part)	I-40 to W. Market St.	*	*				***						*			
B47	Hilltop Road		Widen from Adams Farm Pkwy. to Stanley Rd.	**	**								*					
B49	Norwalk St. Connector		Boston Rd. over railroad to existing		*										*			
B50	Brigham Rd. Widening		W. Market St. to Pleasant Ridge Rd.	*	*													
B51	Regional Rd. Extension		Gallimore Dairy Rd. to north of Hickory Ridge Rd. (part existing)		*										*			

General Notes:
(1) Qualitative screening only. Observations were made by overlaying potential alignments on map with environmental and community resource information.
(2) Impacts considered less severe if following an existing alignment rather than on new alignment.

Environmental Justice Notes:
(1) Not intended to determine impacts, only to identify those communities in proximity to various projects in the long range plan. A much more detailed analysis, including a field survey, will need to be undertaken to determine specific community impacts on a project-by-project basis when individual project studies are begun.

† “YES” if census data indicate that 51% or more of the population is of the selected demographic. If “YES” these communities will need to be included in an environmental justice assessment when individual project studies are undertaken.

KEY	*	Minor	Widening; single small creek crossing; near sensitive area.
	**	Moderate	Widening: multiple small creek crossing; cross or near edge of sensitive area. New Location: single small creek crossing or near sensitive area.
	***	Major	New alignment: along stream; multiple impacts; through middle of sensitive area.

Table 4.2 — Roadway Projects, 2020 Horizon Year																		
IMPACT MATRIX				ENVIRONMENTAL						COMMUNITY						ENVIRONMENTAL JUSTICE		
ID	Facility	TIP Number	Description / Extents	Bodies of Water	Floodplains / Buffers	Threatened Species	Parks / ACOE Properties	Hazardous Waste Sites	Superfund Sites	Schools	Shopping Centers	Hospitals	Churches / Cemeteries	Historic Resources	Reinvestment Areas	Minority †	Hispanic †	Low Income †
C1	US 158	R-2577	Forsyth Co Line - US-220 (includes Stokesdale Bypass) (remainder of the project lies in Forsyth Co.)	**	**										*			
C2	US 70	R-2910	Rock Creek Dairy Rd. to Alamance County Line (.3 to MAB) (remainder of the project lies in Alamance Co.)	*	*									**				
C3	US 70	U-2581	Mt Hope Church Rd. to Rock Creek Dairy Rd.	**	**		*		**	*			**	*	*	Yes***		
C4	Fleming Road / Lewiston Road		Fleming Rd. to Lewiston Rd. connection and interchange at Urban Loop	*	*													
C5	Horsepen Creek Road		New Garden Rd. to Battleground Ave.	*	*					**	**							
C6	Summit Avenue		Brightwood School Rd. to Bryan Park	*														
C7	Eastern Urban Loop	U-2525	Lawndale Dr. to US 70 - New Location	***	***	***	*			*	*		*		***	Yes **		
C8	E. Cone Blvd. / Urban Loop Interchange		Interchange with East Cone Blvd. and Urban Loop															
C9	I-40 / NC 68 / I-73 Connector		Old Oakridge Rd. to I-40,	***	***					**	*							
C10	NC 150 Realignment		New location, from Brookbank Road to US 220 (see C20 for remainder)	***	**									*				
C11	Hicone Road Extension		Lee's Chapel Rd. to Summit Ave.	***	***													
C12	Carmon / McLeansville Road Connector		Knox Rd. to McLeansville Rd.	**	**													
C13	Gallimore Dairy Road / Friendly Avenue		Realign for continuity	*	*				***						***			
C14	Ritters Lake Road Realignment		Connect with Wolftrail at Randleman Rd.															
C15	Sandy Ridge Road Extension		Market St. to I-40 / NC 68 / I-73 Connector and Interchange at Market St.	**	**								*					
C17	Lewiston / Pleasant Ridge Roads		Urban Loop to Realigned NC 150	***	***	*												
C18	Vandalia Road Extension		Pleasant Garden Rd. to Alamance Church Rd. + US 421 interchange	***	***											Yes ***		
C19	South Holden Road		South of Bus. I-85 to Kivett Dr. (part on new location)	**	**					*								
C20	NC 150 Realignment / Widening		On existing Brookbank Road and existing Auburn Road from NC 68 Lake Brandt Road (see C10 for remainder)	**	**					**	**		**	***				
C21	Pleasant Ridge Road		W. Market St. to Lewiston Rd.							**			**	*				

General Notes:
(1) Qualitative screening only. Observations were made by overlaying potential alignments on map with environmental and community resource information.
(2) Impacts considered less severe if following an existing alignment rather than on new alignment.

Environmental Justice Notes:
(1) Not intended to determine impacts, only to identify those communities in proximity to various projects in the long range plan. A much more detailed analysis, including a field survey, will need to be undertaken to determine specific community impacts on a project-by-project basis when individual project studies are begun.

† “YES” if census data indicate that 51% or more of the population is of the selected demographic. If “YES” these communities will need to be included in an environmental justice assessment when individual project studies are undertaken.

KEY	*	Minor	Widening; single small creek crossing; near sensitive area.
	**	Moderate	Widening: multiple small creek crossing; cross or near edge of sensitive area. New Location: single small creek crossing or near sensitive area.
	***	Major	New alignment: along stream; multiple impacts; through middle of sensitive area.

Table 4.3 — Roadway Projects, 2030 Horizon Year

Roadway Projects, 2030 Horizon Year (continued)																		
IMPACT MATRIX				ENVIRONMENTAL						COMMUNITY						ENVIRONMENTAL JUSTICE		
ID	Facility	TIP Number	Description / Extents	Bodies of Water	Floodplains / Buffers	Threatened Species	Parks / ACOE Properties	Hazardous Waste Sites	Superfund Sites	Schools	Shopping Centers	Hospitals	Churches / Cemeteries	Historic Resources	Reinvestment Areas	Minority [†]	Hispanic [†]	Low Income [†]
D29	Florida St. Extension		Franklin Blvd. Extension to Mt. Hope Church Rd (new & improve existing)	***	***								**		***	Yes **		Yes **
D30	Hicone Rd. Widening		US 29 to Hines Chapel Rd.															

General Notes:
(1) Qualitative screening only. Observations were made by overlaying potential alignments on map with environmental and community resource information.
(2) Impacts considered less severe if following an existing alignment rather than on new alignment.

Environmental Justice Notes:
(1) Not intended to determine impacts, only to identify those communities in proximity to various projects in the long range plan. A much more detailed analysis, including a field survey, will need to be undertaken to determine specific community impacts on a project-by-project basis when individual project studies are begun.

† “YES” if census data indicate that 51% or more of the population is of the selected demographic. If “YES” these communities will need to be included in an environmental justice assessment when individual project studies are undertaken.

KEY	*	Minor	Widening; single small creek crossing; near sensitive area.
	**	Moderate	Widening: multiple small creek crossing; cross or near edge of sensitive area. New Location: single small creek crossing or near sensitive area.
	***	Major	New alignment: along stream; multiple impacts; through middle of sensitive area.

Environmental Justice

Environmental Justice is a concept intended to avoid the use of federal funds for projects, programs, or other activities that generate disproportionate or discriminatory adverse impacts on minority or low-income populations. This effort is consistent with Title IV of the 1964 Civil Rights Act, and is promoted by the U.S. Department of Transportation (USDOT) as an integral part of the long-range transportation planning process, as well as individual project planning and design. The environmental justice assessment incorporated in this LRTP update was based on three basic principles, derived from guidance issued by the USDOT:

- The planning process should minimize, mitigate, or avoid environmental impacts (including economic, social, and human health impacts) that affect minority and low-income populations with disproportionate severity.
- The benefits intended to result from the transportation planning process should not be delayed, reduced, or denied to minority and low-income populations.
- Any community potentially affected by outcomes of the transportation planning process should be provided with the opportunity for complete and equitable participation in decision-making.

As part of this LRTP update, the Greensboro MPO identified the geographic distribution of low-income and minority populations, so that the positive and negative effects of various transportation investments in the transportation plan could be assessed. This assessment effort is the focus of this discussion. The MPO also endeavored to develop and carry out a public involvement process that not only reduced obstacles to participation by minority and low-income communities, but also actively sought out meaningful input. This effort is detailed in Chapter 1 of this report.

It must be stressed that the environmental justice screening conducted for this study is not intended to quantify specific impacts. As described above, it is intended to guide the development of a plan that is equitable in terms of both costs and benefits. In addition, a critical purpose of this screening is the identification of projects in the transportation plan that, due to proximity, have the potential to affect communities of special interest. When individual studies are begun as part of project implementation, more detailed analyses, including field surveys, will be needed to identify and minimize specific community impacts on a project-by-project basis.

Methodology and Findings

For the purposes of this study, the following methodology was used to identify communities subject to environmental justice screening. Census information from the year 2000 was analyzed at the block group level. The distributions of populations of interest (African-American, Hispanic, and low income) within each block group were calculated. If individuals from any one of these three categories comprised more than 50% of the population in a particular block group, that block group was flagged for analysis for that population category. Using these definitions, there were no “Hispanic” block groups in the study area, and except for a small area in the northern CBD, the “low income” block groups were a subset of the “African-American” block groups.

Thematic maps were then prepared, graphically depicting concentrations of minority, Hispanic, and low-income populations by block group. Block groups were shaded to represent concentrations of populations of interest, by quartile. When overlaid with proposed roadway projects, these maps provided a useful tool for analyzing and communicating impacts. These maps are included as **Maps 4.3, 4.4, and 4.5**.

If a roadway project was proposed in or near one of the identified block groups, a qualitative assessment was made of the project's potential impacts on the communities of interest. Those results are broadly summarized in **Tables 4.1, 4.2, and 4.3**, and are described below in more detail, on a project-by-project basis. Since projects are grouped by horizon year it is also possible to review the relative timeliness of project implementation in minority and low-income communities.

Roadway Projects — 2014 Horizon Year

Franklin Boulevard/Florida Street Connector (B4)

- Connection on new location: McConnell Road to Lee Street.
- The end of the new location portion of the project affects minority and low-income communities in the College Forest and Franklin Boulevard/Shirley Lane neighborhood areas.
- This project should improve access to the community, provide alternative travel routes, and increase investment opportunities, but could have negative impacts on specific properties.

